AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1) (Currently Amended) An induction sealing device ~~which may be used~~ for producing packages of pourable food products by transversely sealing a tube of sheet packaging material comprising at least one layer of induction heatable material covered with plastic material, said sealing device comprising:

- generating means for generating an alternating power signal, said alternating power signal having a current-voltage phase angle;

- at least one inductor receiving the alternating power signal to induce a parasitic electric current in said layer and locally melt said plastic material to form a transverse seal; and

- a matching circuit for achieving optimum power transfer between said generating means and said inductor;

wherein said matching circuit comprises an inductive-capacitive circuit, in which at least one inductive element is connected to at least one variable-capacitance capacitive element; the capacitance of the capacitive element being adjustable so that the current-voltage phase angle is close to zero.

2) (Previously Presented) A sealing device as claimed in Claim 1, wherein said inductive element and said capacitive element are parallel to each other.

3) (Previously Presented) A sealing device as claimed in Claim 1, wherein said capacitive element comprises at least one main capacitor, and a number of auxiliary capacitors selectively connectable/disconnectable parallel to said main capacitor.

4) (Previously Presented) A sealing device as claimed in Claim 3, wherein switching devices are connected to respective auxiliary capacitors to switch respective auxiliary capacitors on/off.

5) (Previously Presented) A sealing device as claimed in Claim 4, wherein each switching device comprises a first and a second IGBT transistor having emitters connected to each other, and collectors communicating respectively with an electric line communicating with the main capacitor, and with an end terminal of a respective auxiliary capacitor; the gates of said IGBT transistors being connected to each other, and receiving a voltage command V_{da} to turn said IGBT transistors on/off.

6) (Previously Presented) A sealing device as claimed in Claim 5, wherein at least one resistor is interposed between the gates and the emitters of the IGBT transistors; said resistor ensuring discharge of the current stored in the internal capacitors of the IGBT transistors when these are off.

7) (Previously Presented) A sealing device as claimed in Claim 5, wherein at least one Zener diode is interposed between the gate and the emitter of each IGBT transistor; said Zener diode limiting the voltage V_{ga} of the IGBT transistor to a predetermined maximum value.

8) (Currently Amended) A sealing device as claimed in Claim 1, wherein said inductive element has a variable inductance value; said inductance value being regulated so that the impedance of said matching circuit assumes a value close to an optimum impedance value Z_{ott}, ~~e.g. of 50 ohms,~~ to maximize power transfer from said generating means to said inductor.

9) (Previously Presented) A sealing device as claimed in Claim 8, wherein said inductive element comprises a transformer having a primary winding with a number of inputs associated with respective turns and so producing, when selected, different transformation ratios of the transformer.

10) (Currently Amended) An induction sealing method ~~which may be used~~ for producing packages of pourable food products by transversely sealing a tube of sheet packaging material comprising at least one layer of induction-heatable material covered with plastic material said method comprising the steps of:

- generating an alternating power signal by means of a generator, said alternating power signal having a current-voltage phase angle;

- supplying said alternating power signal to at least one inductor to induce a parasitic electric current in said layer and locally melt said plastic material to form a transverse seal; and

- optimizing power transfer between said generator and said inductor by means of a matching circuit;

wherein said optimizing step comprises adjusting the capacitance of at least one capacitive element connected to at least one inductive element so that the current-voltage phase angle is close to zero.

11) (Currently Amended) A sealing method as claimed in Claim 10, and comprising the step of regulating the inductance value of said inductive element so that the impedance seen by said generator assumes a value close to an optimum impedance value Z_{ott}, ~~e.g. of 50 ohms,~~ to maximize power transfer from said generator to said inductor.

12) (Previously Presented) A sealing device as claimed in Claim 2, wherein said capacitive element comprises at least one main capacitor, and a number of auxiliary capacitors selectively connectable/disconnectable parallel to said main capacitor.

13) (New) A sealing device as claimed in Claim 8, wherein the optimum impedance value Z_{ott} is 50 ohms.

14) (New) A sealing method as claimed in Claim 11, wherein the optimum impedance value Z_{ott} is 50 ohms.